LG Electronics Inc.

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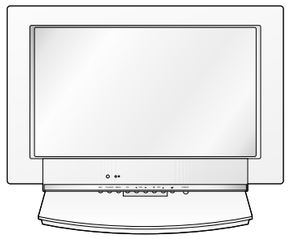
LCD TV
SERVICE MANUAL

CHASSIS : ML-027A

MODEL : RZ-17LZ10

CAUTION
BEFORE SERVICING THE CHASSIS,
READ THE SAFETY PRECAUTIONS IN THIS MANUAL.



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CONTENTS

SAFETY PRECAUTIONS

IMPORTANT SAFETY NOTICE

Many electrical and mechanical parts in this chassis have special safety-related characteristics. These parts are identified by ⚠ in the Schematic Diagram and Replacement Parts List.
It is essential that these special safety parts should be replaced with the same components as recommended in this manual to prevent X-RADIATION, Shock, Fire, or other Hazards.
Do not modify the original design without permission of manufacturer.

General Guidance

An **isolation Transformer should always be used** during the servicing of a receiver whose chassis is not isolated from the AC power line. Use a transformer of adequate power rating as this protects the technician from accidents resulting in personal injury from electrical shocks.

It will also protect the receiver and it's components from being damaged by accidental shorts of the circuitry that may be inadvertently introduced during the service operation.

If any fuse (or Fusible Resistor) in this TV receiver is blown, replace it with the specified.

When replacing a high wattage resistor (Oxide Metal Film Resistor, over 1W), keep the resistor 10mm away from PCB.

Keep wires away from high voltage or high temperature parts.

Due to high vacuum and large surface area of picture tube, extreme care should be used in **handling the Picture Tube**. Do not lift the Picture tube by it's Neck.

X-RAY Radiation

Warning:

The source of X-RAY RADIATION in this TV receiver is the High Voltage Section and the Picture Tube.
For continued X-RAY RADIATION protection, the replacement tube must be the same type tube as specified in the Replacement Parts List.

To determine the presence of high voltage, use an accurate high impedance HV meter.

Adjust brightness, color, contrast controls to minimum.
Measure the high voltage.
The meter reading should indicate
23.5 ¡ 1.5KV: 14-19 inch, 26 ¡ 1.5KV: 19-21 inch,
29.0 ¡ 1.5KV: 25-29 inch, 30.0 ¡ 1.5KV: 32 inch
If the meter indication is out of tolerance, immediate service and correction is required to prevent the possibility of premature component failure.

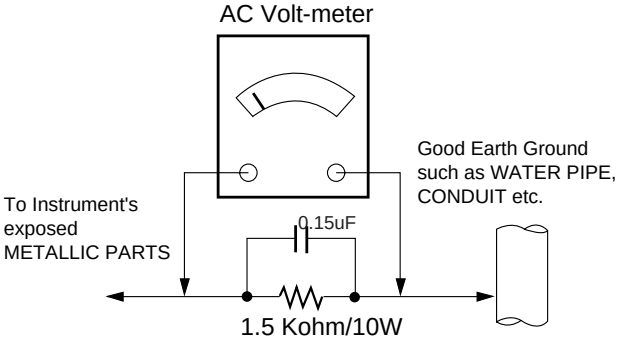
Before returning the receiver to the customer,

always perform an **AC leakage current check** on the exposed metallic parts of the cabinet, such as antennas, terminals, etc., to be sure the set is safe to operate without damage of electrical shock.

Leakage Current Cold Check(Antenna Cold Check)
With the instrument AC plug removed from AC source, connect an electrical jumper across the two AC plug prongs. Place the AC switch in the on position, connect one lead of ohm-meter to the AC plug prongs tied together and touch other ohm-meter lead in turn to each exposed metallic parts such as antenna terminals, phone jacks, etc.
If the exposed metallic part has a return path to the chassis, the measured resistance should be between 1MΩ and 5.2MΩ.
When the exposed metal has no return path to the chassis the reading must be infinite.
An other abnormality exists that must be corrected before the receiver is returned to the customer.

Leakage Current Hot Check (See below Figure)
Plug the AC cord directly into the AC outlet.
Do not use a line Isolation Transformer during this check.
Connect 1.5K/10watt resistor in parallel with a 0.15uF capacitor between a known good earth ground (Water Pipe, Conduit, etc.) and the exposed metallic parts.
Measure the AC voltage across the resistor using AC voltmeter with 1000 ohms/volt or more sensitivity.
Reverse plug the AC cord into the AC outlet and repeat AC voltage measurements for each exposed metallic part. Any voltage measured must not exceed 0.75 volt RMS which is corresponds to 0.5mA.
In case any measurement is out of the limits specified, there is possibility of shock hazard and the set must be checked and repaired before it is returned to the customer.

Leakage Current Hot Check circuit



SERVICING PRECAUTIONS

CAUTION: Before servicing receivers covered by this service manual and its supplements and addenda, read and follow the *SAFETY PRECAUTIONS* on page 3 of this publication.
NOTE: If unforeseen circumstances create conflict between the following servicing precautions and any of the safety precautions on page 3 of this publication, always follow the safety precautions. Remember: Safety First.

General Servicing Precautions

1. Always unplug the receiver AC power cord from the AC power source before;
   a. Removing or reinstalling any component, circuit board module or any other receiver assembly.
   b. Disconnecting or reconnecting any receiver electrical plug or other electrical connection.
   c. Connecting a test substitute in parallel with an electrolytic capacitor in the receiver.
      CAUTION: A wrong part substitution or incorrect polarity installation of electrolytic capacitors may result in an explosion hazard.
   d. Discharging the picture tube anode.
2. Test high voltage only by measuring it with an appropriate high voltage meter or other voltage measuring device (DVM, FETVOM, etc) equipped with a suitable high voltage probe. Do not test high voltage by "drawing an arc".
3. Discharge the picture tube anode only by (a) first connecting one end of an insulated clip lead to the degaussing or kine aquadag grounding system shield at the point where the picture tube socket ground lead is connected, and then (b) touch the other end of the insulated clip lead to the picture tube anode button, using an insulating handle to avoid personal contact with high voltage.
4. Do not spray chemicals on or near this receiver or any of its assemblies.
5. Unless specified otherwise in this service manual, clean electrical contacts only by applying the following mixture to the contacts with a pipe cleaner, cotton-tipped stick or comparable non-abrasive applicator; 10% (by volume) Acetone and 90% (by volume) isopropyl alcohol (90%-99% strength)
   CAUTION: This is a flammable mixture.
   Unless specified otherwise in this service manual, lubrication of contacts in not required.
6. Do not defeat any plug/socket B+ voltage interlocks with which receivers covered by this service manual might be equipped.
7. Do not apply AC power to this instrument and/or any of its electrical assemblies unless all solid-state device heat sinks are correctly installed.
8. Always connect the test receiver ground lead to the receiver chassis ground before connecting the test receiver positive lead.
   Always remove the test receiver ground lead last.
9. *Use with this receiver only the test fixtures specified in this service manual.*
   CAUTION: Do not connect the test fixture ground strap to any heat sink in this receiver.

Electrostatically Sensitive (ES) Devices

Some semiconductor (solid-state) devices can be damaged easily by static electricity. Such components commonly are called *Electrostatically Sensitive (ES) Devices.* Examples of typical ES devices are integrated circuits and some field-effect transistors and semiconductor "chip" components. The following techniques should be used to help reduce the incidence of component damage caused by static by static electricity.

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any electrostatic charge on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging wrist strap device, which should be removed to prevent potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.
3. Use only a grounded-tip soldering iron to solder or unsolder ES devices.
4. Use only an anti-static type solder removal device. Some solder removal devices not classified as "anti-static" can generate electrical charges sufficient to damage ES devices.
5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive material).
7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.
   CAUTION: Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.
8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity sufficient to damage an ES device.)

General Soldering Guidelines

1. Use a grounded-tip, low-wattage soldering iron and appropriate tip size and shape that will maintain tip temperature within the range or 500 ¡ÆF to 600 ¡ÆF.
2. Use an appropriate gauge of RMA resin-core solder composed of 60 parts tin/40 parts lead.
3. Keep the soldering iron tip clean and well tinned.
4. Thoroughly clean the surfaces to be soldered. Use a mall wire-bristle (0.5 inch, or 1.25cm) brush with a metal handle. Do not use freon-propelled spray-on cleaners.
5. Use the following unsoldering technique
   a. Allow the soldering iron tip to reach normal temperature. (500 ¡ÆF to 600 ¡ÆF)
   b. Heat the component lead until the solder melts.
   c. Quickly draw the melted solder with an anti-static, suction-type solder removal device or with solder braid.
      CAUTION: Work quickly to avoid overheating the circuitboard printed foil.
6. Use the following soldering technique.
   a. Allow the soldering iron tip to reach a normal temperature (500 ¡ÆF to 600 ¡ÆF)
   b. First, hold the soldering iron tip and solder the strand against the component lead until the solder melts.

c. Quickly move the soldering iron tip to the junction of the component lead and the printed circuit foil, and hold it there only until the solder flows onto and around both the component lead and the foil.
CAUTION: Work quickly to avoid overheating the circuit board printed foil.

d. Closely inspect the solder area and remove any excess or splashed solder with a small wire-bristle brush.

IC Remove/Replacement

Some chassis circuit boards have slotted holes (oblong) through which the IC leads are inserted and then bent flat against the circuit foil. When holes are the slotted type, the following technique should be used to remove and replace the IC. When working with boards using the familiar round hole, use the standard technique as outlined in paragraphs 5 and 6 above.

Removal

1. Desolder and straighten each IC lead in one operation by gently prying up on the lead with the soldering iron tip as the solder melts.
2. Draw away the melted solder with an anti-static suction-type solder removal device (or with solder braid) before removing the IC.

Replacement

1. Carefully insert the replacement IC in the circuit board.
2. Carefully bend each IC lead against the circuit foil pad and solder it.
3. Clean the soldered areas with a small wire-bristle brush. (It is not necessary to reapply acrylic coating to the areas).

"Small-Signal" Discrete Transistor Removal/Replacement

1. Remove the defective transistor by clipping its leads as close as possible to the component body.
2. Bend into a "U" shape the end of each of three leads remaining on the circuit board.
3. Bend into a "U" shape the replacement transistor leads.
4. Connect the replacement transistor leads to the corresponding leads extending from the circuit board and crimp the "U" with long nose pliers to insure metal to metal contact then solder each connection.

Power Output, Transistor Device Removal/Replacement

1. Heat and remove all solder from around the transistor leads.
2. Remove the heat sink mounting screw (if so equipped).
3. Carefully remove the transistor from the heat sink of the circuit board.
4. Insert new transistor in the circuit board.
5. Solder each transistor lead, and clip off excess lead.
6. Replace heat sink.

Diode Removal/Replacement

1. Remove defective diode by clipping its leads as close as possible to diode body.
2. Bend the two remaining leads perpendicular y to the circuit board.
3. Observing diode polarity, wrap each lead of the new diode around the corresponding lead on the circuit board.
4. Securely crimp each connection and solder it.
5. Inspect (on the circuit board copper side) the solder joints of the two "original" leads. If they are not shiny, reheat them and if necessary, apply additional solder.

Fuse and Conventional Resistor Removal/Replacement

1. Clip each fuse or resistor lead at top of the circuit board hollow stake.
2. Securely crimp the leads of replacement component around notch at stake top.
3. Solder the connections.
CAUTION: Maintain original spacing between the replaced component and adjacent components and the circuit board to prevent excessive component temperatures.

Circuit Board Foil Repair

Excessive heat applied to the copper foil of any printed circuit board will weaken the adhesive that bonds the foil to the circuit board causing the foil to separate from or "lift-off" the board. The following guidelines and procedures should be followed whenever this condition is encountered.

At IC Connections

To repair a defective copper pattern at IC connections use the following procedure to install a jumper wire on the copper pattern side of the circuit board. (Use this technique only on IC connections).

1. Carefully remove the damaged copper pattern with a sharp knife. (Remove only as much copper as absolutely necessary).
2. carefully scratch away the solder resist and acrylic coating (if used) from the end of the remaining copper pattern.
3. Bend a small "U" in one end of a small gauge jumper wire and carefully crimp it around the IC pin. Solder the IC connection.
4. Route the jumper wire along the path of the out-away copper pattern and let it overlap the previously scraped end of the good copper pattern. Solder the overlapped area and clip off any excess jumper wire.

At Other Connections

Use the following technique to repair the defective copper pattern at connections other than IC Pins. This technique involves the installation of a jumper wire on the component side of the circuit board.

1. Remove the defective copper pattern with a sharp knife. Remove at least 1/4 inch of copper, to ensure that a hazardous condition will not exist if the jumper wire opens.
2. Trace along the copper pattern from both sides of the pattern break and locate the nearest component that is directly connected to the affected copper pattern.
3. Connect insulated 20-gauge jumper wire from the lead of the nearest component on one side of the pattern break to the lead of the nearest component on the other side. Carefully crimp and solder the connections.
CAUTION: Be sure the insulated jumper wire is dressed so the it does not touch components or sharp edges.

SPECIFICATIONS

Note : Specification and others are subject to change without notice for improvement.

- **Receivable Broadcasting system:**
  PAL-B/G, D/K, I/I
  SECAM-B/G, D/K/L/L'
  NTSC M

- **RF Input Channel:**
  VHF : E2 ~ E12
  UHF : E21 ~ E69
  CATV : S1 ~ S20
  HYPER : S21 ~ S41
  L/L' : B,C,D

- **Input Voltage :** 110~240V, 50/60Hz(NON-EU)
  230~240V, 50Hz(EU)

- **Power consumption :** Max 60W
  Stand-by 3W

- **Tuning system :**
  FVS 100 Program
  200 Program(Option)

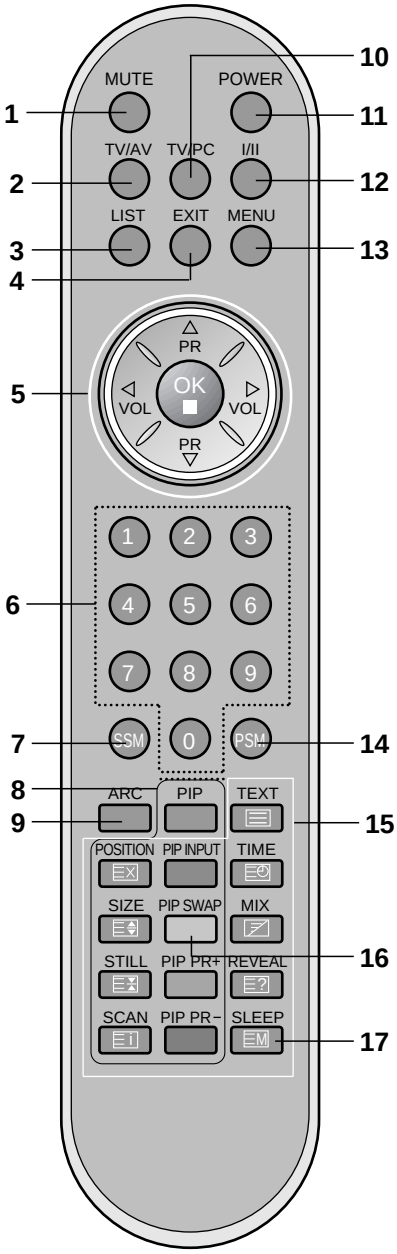
- **Speaker impedance :** 8 ohm

- **External In/Output**
  Audio-In/Out : 0.5V ± 0.1
  Video-In/Out : 1Vpp ± 0.15
  R,G,B In:0.7Vpp ± 0.1

- **Feature & Funtion**
  Teletext(TOP/FLOF/LIST 10 page)
  AV Input : 2(Side and Rear)
  S-AV Input : 1(Rear)
  Component Input : 1(Rear-option)
  PERI TV Connector : Full Scart 1(Rear option-EU)
  RGB INput : 1(D-sub 15 pin)
  D-Sub Audio Input : 1(Stereo)
  2 Carrier Stereo : BG/DK
  NICAM Stereo : BG/I/LL'
  2 Carrier Dual : BG/DK
  NICAM Dual : BG/I/LL'
  MW(Multi Window) Mode
  DW(Double Window) Mode
  Film Mode
  Progressive Scan
  Motion Detection
  Ez-PIP

DESCRIPTION OF CONTROLS

All the functions can be controlled with the remote control handset. Some functions can also be adjusted with the buttons on the front panel of the set.
Only use the remote control handset supplied with this set. If you use other remote control handsets, they'll not be able to use.



Remote control handset

Before you use the remote control handset, please install the batteries. See the next page.

1. **MUTE**
   switches the sound on or off.

2. **TV/AV**
   selects TV or AV monitor mode.
   clears the menu from the screen.
   switches the set on from standby.

3. **LIST**
   displays the programme table.

4. **EXIT**
   exits from each mode.

5. **▲ / ▼ (Programme Up/Down)**
   selects a programme or a menu item.
   switches the set on from standby.
   ◄ / ► (Volume Up/Down)
   adjusts the volume.
   adjusts menu settings.
   OK
   accepts your selection or displays the current mode.

6. **NUMBER BUTTONS**
   switches the set on from standby and selects a programme.

7. **SSM (Sound Status Memory)**
   recalls your preferred sound setting.

8. **PIP BUTTONS (option)**
   PIP
   switches the sub picture on or off.
   PIP PR +/-
   selects a programme for the sub picture.
   PIP SWAP
   alternates between main and sub picture.
   PIP INPUT
   selects the input mode for the sub picture.
   SIZE
   adjusts the sub picture size.
   STILL
   freezes motion of the sub picture
   POSITION
   relocates the sub picture in up/down or left/right direction.
   SCAN
   switches on the programme scan mode through 3/12/9 sub pictures.

9. **ARC**
   select your desired picture format.

10. TV/PC
selects TV or PC monitor mode.
clears the menu from the screen.
switches the set on from standby.

11. POWER
switches the set on from standby or off to standby.

12. I/II
selects the language during dual language broadcast.
selects the sound output (option).

13. MENU
selects a menu.

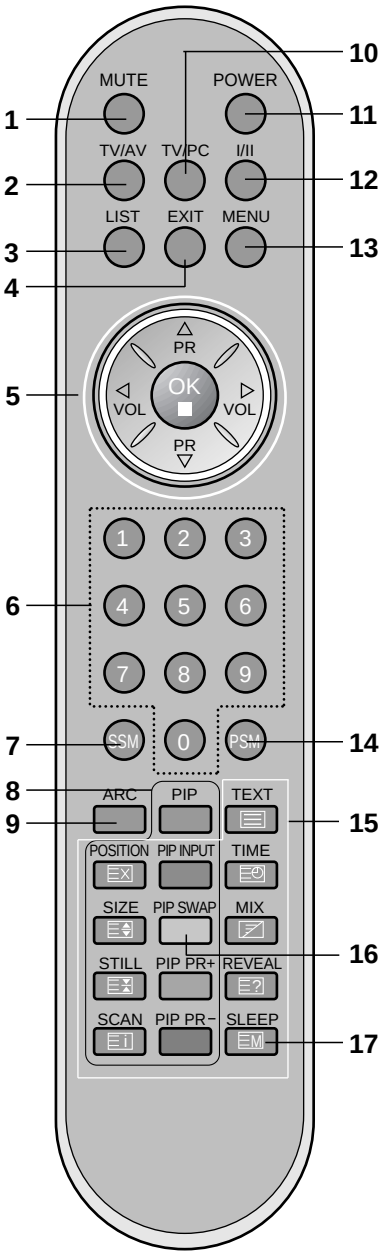
14. PSM (Picture Status Memory)
recalls your preferred picture setting.

15. TELETEXT BUTTONS (option)
These buttons are used for teletext.
For further details, see the 'Teletext' section.

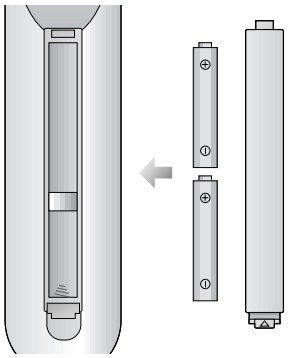
16. PIP SWAP
returns to the previously viewed programme.

17. SLEEP
sets the sleep timer.

Note : *In teletext mode, the **PIP PR+/-** and **LIST** buttons are used for teletext functions.*



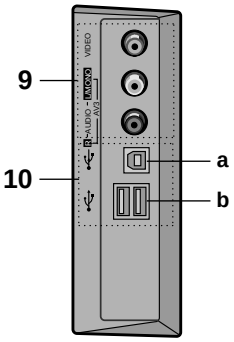
Battery installation



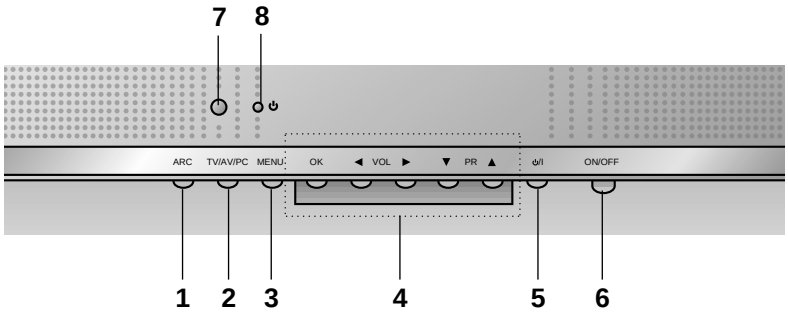
The remote control handset is powered by two AAA/Alkaline type batteries. To load the batteries, turn the remote control handset over and open the battery compartment. Install two batteries as indicated by the polarity symbols (⊕ and ⊖) marked inside the compartment.

Note : *To avoid damage from possible battery leakage, remove the batteries if you do not plan to use the remote control handset for an extended period of time.*

Front panel



Side panel



1. **ARC**
   select your desired picture format.

2. **TV/AV/PC**
   selects TV, AV or PC monitor mode.
   clears the menu from the screen.
   switches the set on from standby.

3. **MENU**
   selects a menu.

4. **OK**
   accepts your selection or displays the current mode.
   ◄ / ► (Volume Up/Down)
   adjusts the volume.
   adjusts menu settings.
   ▲ / ▼ (Programme Up/Down)
   selects a programme or a menu item.
   switches the set on from standby.

5. **MAIN POWER (⏻/I)**
   switches the set on or off.

6. **ON/OFF**
   switches the set on from standby or off to standby.

7. **REMOTE CONTROL SENSOR**

8. **POWER/STANDBY INDICATOR**
   illuminates red when the set is in standby mode.
   illuminates green when the set is in power on mode.
   illuminates amber when the set is DPMS mode.

9. **AUDIO/VIDEO IN SOCKETS (AV3)**
   connect the audio/video out sockets of external equipment to these sockets.

10. **USB (Universal Serial Bus) PORT**
    a. UP-STREAM PORT
    connect the cable supplied with the set to this port.
    b. DOWN-STREAM PORT
    connect external equipments such as mouse, keyboard, digital camera, PC camera to this port.

ADJUSTMENT INSTRUCTION

1. Application Object

This instruction is for the application to the LCD TV.

2. Notes

(1) This set uses an adapter, so connect the adapter and the set correctly before adjustment.
(2) The adjustment must be performed under the correct sequence.
(3) The adjustment must be performed in the circumstance of 25±5°C of temperature and 65±10% of relative humidity if there is no specific designation.
(4) The input voltage of the receiver must keep 100~220V, 50/60Hz in adjusting.
(5) The set must be operated for 15 minutes preliminarily before adjustment if there is no specific designation.

※ 'Heat Run' must be performed with the full white signal or TV noise signal in the internal part of the set.
※ The time for 'Heat Run' can be changed owing to production plan.

3. PC Input Mode Adjustment

3-1. Required Test Equipment

(1) A pattern generator being in proportion to 801GF(or VG819) ; Pattern of 16(11) tones
(2) A Service remote control

3-2. Preparation for Adjustment

(1) Perform 'Heat Run' for more than 30 minutes in white pattern.
(2) Connect the signal of pattern generator with LCD TV.

3-3. Auto Gray Adjustment

(1) Apply the gray signal of XGA(1024X768) 16 tones(H:31-214 Pattern,V=60-84 Pattern) by using 801GF.
Or apply gray signal of Pattern Generator 16(11) tones by using VG819.
(2) In VSC mode,adjust the Auto gay from 0 to 1 by using Vol(+) button.

3-3. Position of Mode Adjustment

Timing of Mode Table * H[dot]/V[line]

Mode	VGA-60	VGA-67	VGA-75	VGA-85	SVGA-56	SVGA-60	SVGA-72	SVGA-75	SVGA-85
H_Total	800	864	840	832	1024	1056	1040	1056	1048
H_Display	640	640	640	640	800	800	800	800	800
H_Blanking	160	224	200	192	224	256	240	256	248
H_Sync	96	64	64	56	72	128	120	80	64
H Polarity	NEG.	NEG.	NEG.	NEG.	POS	POS	POS	POS	POS
H_Bp	48	96	120	80	128	88	64	160	152
H_Fp	16	64	16	56	24	40	56	16	32
H-Freq[KHz]	31.469	35.0	37.5	43.269	35.156	37.879	48.077	46.875	53.674
/Clk[MHz]	25.175	30.24	31.5	36.0	36.0	40.0	50.0	49.5	56.25
V_Total	525	525	500	509	625	628	666	625	631
V_Display	480	480	480	480	600	600	600	600	600
V_Frequency	60	67	75	82	56	60	72	75	85
V_Blanking	45	45	20	29	25	28	66	25	31
V_Sync	2	3	3	3	2	4	6	3	3
V Polarity	NEG	NEG	NEG	NEG	POS	POS	POS	POS	POS
V_Bp	33	39	16	25	22	23	23	21	27
V_Fp	10	3	1	1	1	1	37	1	1

Mode	XGA-60	XGA-70	XGA-75	MAC-75	XGA-85
H_Total	1344	1328	1312	1152	1376
H_Display	1024	1024	1024	832	1024
H_Blanking	320	304	288	320	352
H_Sync	136	136	96	64	96
H Polarity	NEG	NEG	POS	NEG	POS
H_Bp	136	144	176	224	208
H_Fp	160	24	16	32	48
H-Freq[KHz]	48.363	56.476	60.023	49.725	68.677
/Clk[MHz]	65.0	75.0	78.75	57.283	84.997
V_Total	806	806	800	667	808
V_Display	768	768	768	624	768
V_Frequency	60	70	75	75	82
V_Blanking	38	38	32	43	40
V_Sync	6	6	3	3	3
V Polarity	NEG	NEG	POS	NEG	POS
V_Bp	29	29	28	39	36
V_Fp	3	3	1	1	1

4. EDID(The Extended Display Identification Data)

EDID Table

	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F
00	00	FF	FF	FF	FF	FF	FF	00	30	E5	D7	3A	01	00	00	00
10	00	0B	01	01	78	1F	17	70	E8	C3	A0	A3	54	4C	97	24
20	14	50	54	BF	E8	80	31	59	3B	D9	45	59	61	59	71	59
30	81	40	81	80	01	01	10	0E	01	01	01	01	01	01	01	01
40	01	01	01	01	01	01	01	01	F9	15	01	01	01	01	01	01
50	01	01	01	01	01	01	01	01	01	01	64	19	00	40	41	00
60	26	30	18	88	36	00	0E	C3	10	00	00	1E	00	00	00	FD
70	00	32	55	1E	46	0D	00	0A	20	20	20	20	20	20	00	C8

5. Option1 data

Option	Code	Function	Remark
200PR	0	100 Program	
	1	200 Program	
TEXT	0	TEXT Off	
	1	TEXT On	
I/II Save	0	CH.Sound Non Memory	
	1	CH.Sound Memory	
Top	0	TOP OFF	
	1	TOP ON	
Scart	0	SCART OFF	
	1	SCART ON	
A2 Ster	0	FM Stereo/Dual	
	1	FM Mono	
System	0	GB/I/DK/M	
	1	GB/I/DK/L	
	2	Reserved	
	3	Reserved	

6. Option2 data

Option	Code	Function	Remark
PIP Text	0	PIP Text	
	1	PIP Text not display	
ACMS	0	ACMS On	
	1	ACMS Off	
VOL	0	OFF	
	1	Middle Asia Vol On	
HDEV	0	HDEV Off	
	1	HDEV ON	
OSD Lang.	0	Eng.only	
	1	Eng/Deut/Fran/Ital/Esp	
	2	2	
	3	6(EU5+Netherlands)	
	4	4	
	5	11	
	6	7	
	7	Reserved	

7. Option3 data

Option	Code	Function	Remark
IIC AFT	0	IIC AFT Off	
	1	IIC AFT On	
MD SAve	0	MD Save On	
	1	MD Save Off	
Mono	0	Mono Off	
	1	Mono On	
CH+Aus	0	OFF	
	1	China,Austrailia On	
TXT-Lan	0	West EU	
	1	East EU1	
	2	Turky EU	
	3	East EU2	
	4	Cyrillic 1	
	5	Cyrillic 2	
	6	Cyrillic 3	
	7	TURK GRE 1	
	8	TURK GRE 2	
	9	TURK GRE 3	
	10	ARAB FRAN	
	11	ARAB ENG	
	12	ARAB HEB 1	
	13	ARAB HEB 2	
	14	FARSI ENG	
	15	FARSI FRA	
	16	FARSI ALL	

TROUBLESHOOTING

1. General Features

No.	Symptom	Cause	Check Point
1	No screen	Input error of inverter connector	1) Bend the pin legs of P1 connector -> recheck them 2) Check and repair the IC804,805.
		P704 and Pin 21 connector being slipped out	1) Check and fix P704 connector 2) Check and fix the components at P704 LCD module and at main board. 3) Check Pin21.
		Cracked components and soldering at tuner board	Check and repair tuner board and main board
2	Dark screen	1) Defective LCD lamp 2) Defective inverter 3) Input error of inverter connector	1) Replace the inverter 2) Replace the LCD lamp 2) Check the connector input.

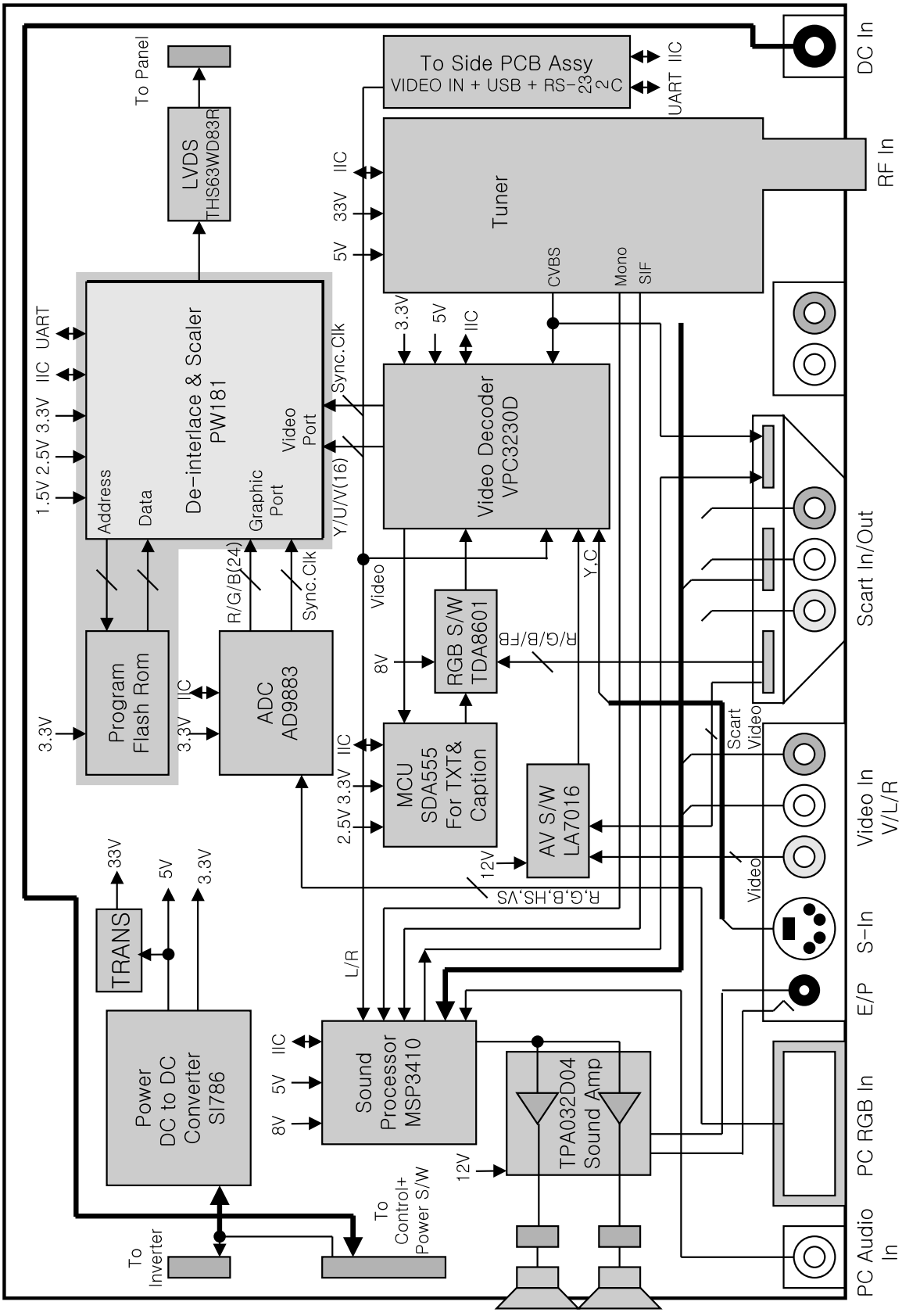
2. PC Mode

No.	Symptom	Cause	Check Point
1	Screen noise	Clock or phase being not able to be adjusted.	1) Resettig is needed according to the video card of each PC. 2) Horizontal noise : adjust phase until no horizontal noise occurres. 3) Vertical noise : adjust clock in menu until no vertical noise occurres.
2	Screen position error	Screen position error horizontally or vertically	1) Play the Auto Configure in Menu. 2) Adjust horizontal and vertical position until the screen displayes normally.
3	Color beat noise	Soldering D-SUB Jack of JA202 and IC202.	Recheck adn repair JA202,IC202

3. TV and external input

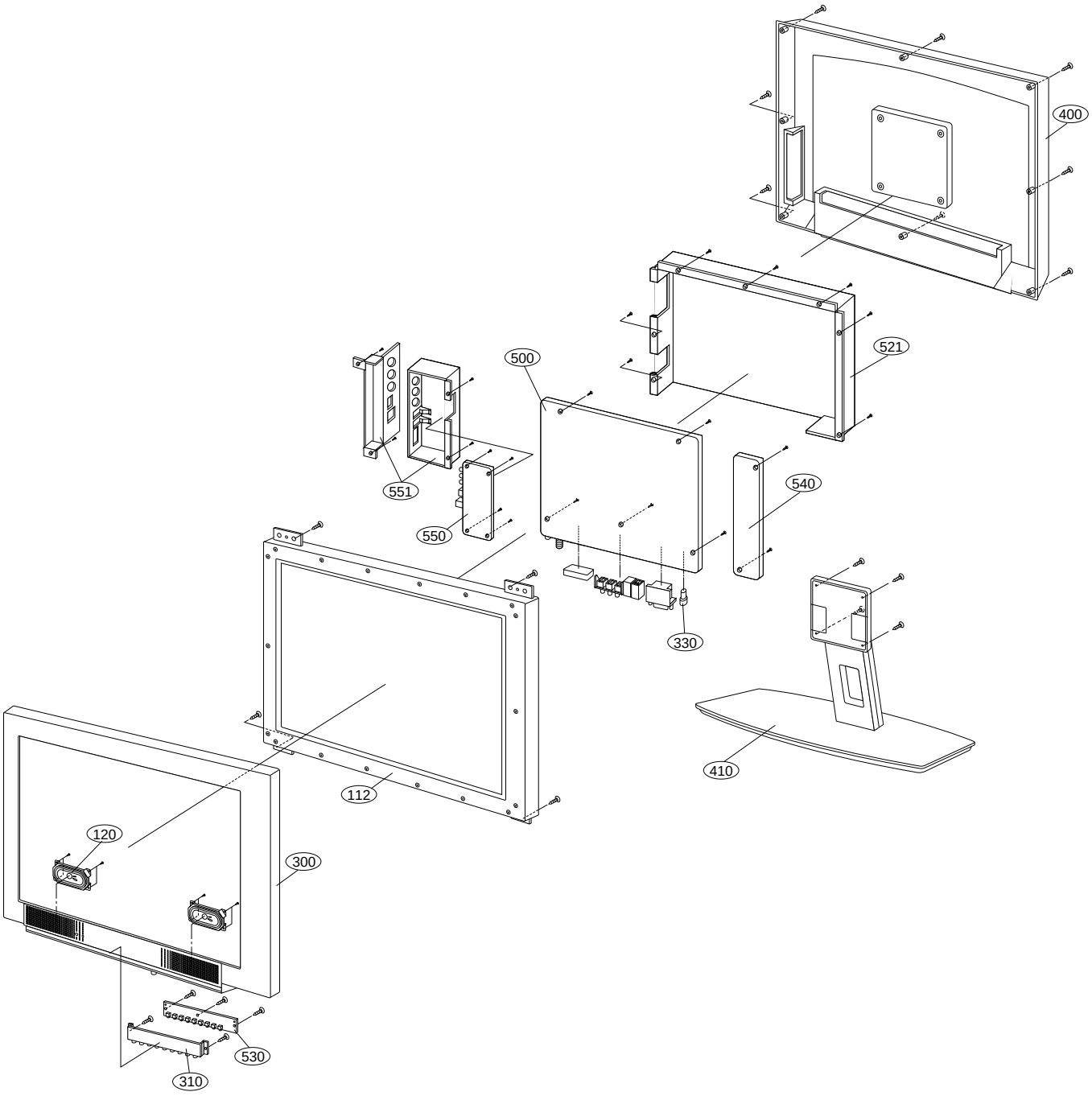
No.	Symptom	Cause	Check Point
1	No sound - Speaker - Earphone	Defective Reset IC of IC604. Defective MSP3410 of IC601. Defective B+(8V,5V) of IC602,603.	1) Check volume and speaker. - Sound comes out only when being inputted into Audio L/R. 2) Check after replacing IC604. 3) Replace IC601. 4) Check and replace B+ of IC602,603.
2	Video color beat noise	Earphone shield case being touched.	Check the mould of shield and JA203, Replace shield case.
		Soldering IC301 and IC501.	Re-soldering

BLOCK DIAGRAM



MEMO

EXPLODED VIEW



EXPLODED VIEW PARTS LIST

No.	PART NO.	DESCRIPTION
112	6304FLP035A	LCD MODULE,LM171W01-B3 LG PHILPS TFT COLOR NON
120	6400GKTX01A	SPEAKER,F1527C-6428 K-TONE FULL-RANGE 8OHM 7/12W 83DB
300	3091V00442A	CABINET ASSEMBLY,RZ-17LZ10 NON NON PLATON
310	5020V00687A	BUTTON
330	5020V00553F	BUTTON,POWER RZ-17LZ10 ABS, HF-380 1KEY .
400	3809V00299A	BACK COVER ASSEMBLY,RZ-17LZ10 NON
	3809V00299C	BACK COVER ASSEMBLY,RZ-17LZ10 UK
410	4811V00028A	BRACKET ASSEMBLY,STAND RZ-17LZ10 ML027A NON
500	3141VMNP59B	CHASSIS ASSEMBLY,MAIN ML027A .
	3141VMNP59C	CHASSIS ASSEMBLY,MAIN ML027A .
521	4950V00107A	METAL,MAIN FRAME EGI 1.0T
530	6871VSMN95A	PWB ASSEMBLY,CONT ML027A ASSY
540	6633VA0003M	INVERTER ASSEMBLY,12V
550	6871VSMN40A	PWB ASSEMBLY,A/V ML027A USB ASSY
551	4811V00031A	BRACKET ASSEMBLY,A/V RZ-17LZ10 ML027A

REPLACEMENT PARTS LIST

For Capacitor & Resistors, the charactors at 2nd and 3rd digit in the P/No. means as follows;	CC, CX, CK, CN : Ceramic CQ : Polyestor CE : Electrolytic	RD : Carbon Film RS : Metal Oxide Film RN : Metal Film RF : Fusible

LOCA. NO	PART NO	DESCRIPTION
IC		
IC1	0IMCRTI018A	IC, TUSB2036 32P QFP R/TP USB HUB IC
IC1	0IZZVC0046A	IC, INFENION 52PIN ST U-COM 17INCH WIDE LCD
IC2	0IFA752700A	IC, KA75270Z 3 TP RE-SET IC MC-007
IC201	0IAL242110A	IC, AT24C21-10SI-2.5 8P,SOP TP 1K EEPROM
IC202	0IMCRFA022A	IC, 74F14SC FAIRCHILD 14P SOIC R/TP
IC203	0IPH860100B	IC, TDA8601T 16P-SOP BK FAST BLANKING SWITCH RG
IC280	0IMCRFA009A	IC, KA78M08RTM, FAIRCHILD 2P D-PAK,
IC3	0IAL241610B	IC, AT24C16A-10PI-2.7 8PIN DIP ST EEPROM
IC301	0IIT323000E	IC, VPC3230D C5 80P QFP TRAY VIDEO
IC401	0IIN298003A	IC, COPY TE28F800B3TA90 48TSOP BK 8M FLASH MEMORY
IC501	0IMCRPW001A	IC, PW181 PIXELWORKS 352PBGA TRAY SCALER IC
IC502	0IMCRTI020A	IC, TLC7733ID TEXAS INSTRUMENT 8P 3.3V RESET
IC503	0IMCRAL006A	IC, AT24C16AN-10SI-2.7 ATMEL 8P SOIC
IC504	0IMCRTI002A	IC, SN74HCT32D 16P R/TP QUADRUPLE2INPUT
IC555	0IMCRPU001A	IC, P2781A-08SR PULSE CORE SO 8 PIN
IC600	0IMCRTI022C	IC,TPA3002D TEXAS INSTRUMENT
IC601	0IMCRMN011D	IC, MSP3410G QA B8 V3 MICRONAS 80P
IC602	0IMCRFA009A	IC, KA78M08RTM, FAIRCHILD 2P D-PAK,
IC603	0IMCRFA008A	IC, KA78M05RTM, FAIRCHILD 2P D-PAK,
IC604	0IKE704200J	IC, KIA7042AF SOT-89 TP 4.2V VOLTAGE
IC7	0IMCRTI017A	IC, TPS2042A 8P SOIC R/TP USB POWER SWITCH IC
IC701	0IMCRTH001A	IC, THC63LVDM83R 56P TSSOP R/TP TRANSMITTER IC
IC801	0ITC786000A	IC, SI786 28SSOP TP DUAL-OUTPUT POWER CONTROLLER
IC806	0IMCRFA020A	IC, RC1587DT_36 FAIRCHILD 3P TO252 DPAK R/TP 2.5V 3A
IC807	0IMCRFA020A	IC, RC1587DT_36 FAIRCHILD 3P TO252 DPAK R/TP 2.5V 3A
IC940	0ISA701600A	IC,LA7016 8S ANALOG S/W
IC950	0IMCRAD002A	IC,AD9883A ANALOG DEVICE 80P TQFP
IC951	0ISH323422A	IC,PQ3RF23 4P(TO-220) 3.3V REGUL
Q1	0IFA270000A	IC, 2N7000TA TO-92, 3P TP LEVEL SHIFT 60V/0.2A
Q2	0IFA270000A	IC, 2N7000TA TO-92, 3P TP LEVEL SHIFT 60V/0.2A
DIODE		
D1	0DD181009AB	DIODE,SWITCHING KDS181 TP KEC 85V 300MA
D10	0DD181009AB	DIODE,SWITCHING KDS181 TP KEC 85V 300MA
D11	0DZRM00178A	DIODE,ZENERS UDZS TE-17 5.1B 0.2W 5.1V
D12	0DZRM00178A	DIODE,ZENERS UDZS TE-17 5.1B 0.2W 5.1V
D801	0DD181009AB	DIODE,SWITCHING KDS181 TP KEC 85V 300MA
D803	0DD100009AM	DIODE,RECTIFIERS EU1ZV(1) TP
D804	0DD181009AB	DIODE,SWITCHING KDS181 TP KEC 85V300MA
ZD1	0DZRM00178A	DIODE,ZENERS UDZS TE-17 5.1B 0.2W 5.1V
ZD101	0DZ330009BA	DIODE,ZENER HZT33(TP) HITACHI
ZD203	0DZRM00178A	DIODE,ZENERS UDZS TE-17 5.1B 0.2W 5.1V
ZD204	0DZRM00178A	DIODE,ZENERS UDZS TE-17 5.1B 0.2W 5.1V
ZD205	0DZRM00178A	DIODE,ZENERS UDZS TE-17 5.1B 0.2W 5.1V
ZD206	0DZRM00178A	DIODE,ZENERS UDZS TE-17 5.1B 0.2W 5.1V
ZD207	0DZRM00178A	DIODE,ZENERS UDZS TE-17 5.1B 0.2W 5.1V
ZD212	0DZRM00178A	DIODE,ZENERS UDZS TE-17 5.1B 0.2W 5.1V
ZD213	0DZRM00178A	DIODE,ZENERS UDZS TE-17 5.1B 0.2W 5.1V
ZD214	0DZRM00178A	DIODE,ZENERS UDZS TE-17 5.1B 0.2W 5.1V
ZD215	0DZRM00178A	DIODE,ZENERS UDZS TE-17 5.1B 0.2W 5.1V
ZD216	0DZRM00178A	DIODE,ZENERS UDZS TE-17 5.1B 0.2W 5.1V
ZD217	0DZRM00178A	DIODE,ZENERS UDZS TE-17 5.1B 0.2W 5.1V
ZD218	0DZRM00178A	DIODE,ZENERS UDZS TE-17 5.1B 0.2W 5.1V
ZD219	0DZRM00178A	DIODE,ZENERS UDZS TE-17 5.1B 0.2W 5.1V
ZD220	0DZRM00178A	DIODE,ZENERS UDZS TE-17 5.1B 0.2W 5.1V
ZD223	0DZRM00178A	DIODE,ZENERS UDZS TE-17 5.1B 0.2W 5.1V
ZD224	0DZRM00178A	DIODE,ZENERS UDZS TE-17 5.1B 0.2W 5.1V
ZD225	0DZRM00178A	DIODE,ZENERS UDZS TE-17 5.1B 0.2W 5.1V
ZD4	0DZRM00178A	DIODE,ZENERS UDZS TE-17 5.1B 0.2W 5.1V
ZD5	0DZRM00178A	DIODE,ZENERS UDZS TE-17 5.1B 0.2W 5.1V
TRANSISTOR		
IC802	0TFVI80001A	TR,VISHAY SI4808DY R/TP SO-8 30V 7.5A OLD
IC803	0TFVI80001A	TR,VISHAY SI4808DY R/TP SO-8 30V 7.5A OLD
IC804	0TFVI80005A	TR,VISHAY SI4963DY R/TP SO-8 -20V 6.2A
IC702	0TF492509AA	TR,SI4925DY TP TEMIC 30V 6.1A SO-8
IC805	0TF492509AA	TR,SI4925DY TP TEMIC 30V 6.1A SO-8
Q101	0TR387500AA	TR,CHIP 2SC3875S(ALY) KEC
Q102	0TR387500AA	TR,CHIP 2SC3875S(ALY) KEC
Q103	0TR387500AA	TR,CHIP 2SC3875S(ALY) KEC
Q104	0TR387500AA	TR,CHIP 2SC3875S(ALY) KEC
Q106	0TR150400BA	TR,CHIP 2SA1504S(ASY) KEC
Q107	0TR387500AA	TR,CHIP 2SC3875S(ALY) KEC
Q1101	0TR319809AA	TR,KTC3198(KTC1815) KEC TP TO92 50V 150MA
Q1102	0TR319809AA	TR,KTC3198(KTC1815) KEC TP TO92 50V 150MA
Q201	0TR387500AA	TR,CHIP 2SC3875S(ALY) KEC
Q202	0TR387500AA	TR,CHIP 2SC3875S(ALY) KEC
Q203	0TR387500AA	TR,CHIP 2SC3875S(ALY) KEC
Q280	0TR387500AA	TR,CHIP 2SC3875S(ALY) KEC
Q281	0TR387500AA	TR,CHIP 2SC3875S(ALY) KEC
Q282	0TR387500AA	TR,CHIP 2SC3875S(ALY) KEC
Q283	0TR387500AA	TR,CHIP 2SC3875S(ALY) KEC
Q3	0TR387500AA	TR,CHIP 2SC3875S(ALY) KEC
Q310	0TR387500AA	TR,CHIP 2SC3875S(ALY) KEC
Q4	0TR387500AA	TR,CHIP 2SC3875S(ALY) KEC
Q601	0TR150400BA	TR,CHIP 2SA1504S(ASY) KEC
Q602	0TR150400BA	TR,CHIP 2SA1504S(ASY) KEC
Q603	0TR150400BA	TR,CHIP 2SA1504S(ASY) KEC
Q604	0TR150400BA	TR,CHIP 2SA1504S(ASY) KEC
Q605	0TR387500AA	TR,CHIP 2SC3875S(ALY) KEC
Q701	0TR387500AA	TR,CHIP 2SC3875S(ALY) KEC
Q801	0TR387500AA	TR,CHIP 2SC3875S(ALY) KEC
CAPACITOR		
C103	0CE227DF618	220UF STD 16V M FL TP5
C107	0CE108DD618	1000UF STD 10V M FL TP5

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LOCA. NO	PART NO	DESCRIPTION
C109	0CE106DK618	10UF STD 50V M FL TP5
C11	0CE106CF636	10UF SHL,SD 16V M FM5 BP(D) TP
C110	0CE476DF618	47UF STD 16V M FL TP5
C1102	0CN1030F679	10000P 16V M Y TA52
C1110	0CE107DD618	100UF STD 10V M FL TP5
C112	0CE476DF618	47UF STD 16V M FL TP5
C113	0CE107DF618	100UF STD 16V M FL TP5
C19	0CE106DF618	10UF STD 16V M FL TP5
C2	0CE107DF618	100UF STD 16V M FL TP5
C209	0CE225DK618	2.2UF STD 50V 20% FL TP 5
C215	0CE227DD618	220UF STD 10V M FL TP5
C221	0CE226DF618	22UF STD 16V M FL TP5
C222	0CE226DF618	22UF STD 16V M FL TP5
C282	0CE106DF618	10UF STD 16V M FL TP5
C293	0CE106DK618	10UF STD 50V M FL TP5
C3	0CE106CF636	10UF SHL,SD 16V M FM5 BP(D) TP
C301	0CK224DF56A	220000PF 2012 16V 10% R/TP X7R
C303	0CK224DF56A	220000PF 2012 16V 10% R/TP X7R
C305	0CK224DF56A	220000PF 2012 16V 10% R/TP X7R
C315	0CK224DF56A	220000PF 2012 16V 10% R/TP X7R
C316	0CE107DD618	100UF STD 10V M FL TP5
C328	0CE106DF618	10UF STD 16V M FL TP5
C332	0CE476DF618	47UF STD 16V M FL TP5
C333	0CE107DF618	100UF STD 16V M FL TP5
C336	0CK224DF56A	220000PF 2012 16V 10% R/TP X7R
C337	0CE226DF618	22UF STD 16V M FL TP5
C338	0CE107DF618	100UF STD 16V M FL TP5
C341	0CK224DF56A	220000PF 2012 16V 10% R/TP X7R
C343	0CE476DF618	47UF STD 16V M FL TP5
C347	0CE105CK636	1UF SHL,SD 50V M FM5 BP(D) TP
C349	0CE105CK636	1UF SHL,SD 50V M FM5 BP(D) TP
C351	0CE105CK636	1UF SHL,SD 50V M FM5 BP(D) TP
C353	0CE105CK636	1UF SHL,SD 50V M FM5 BP(D) TP
C441	0CK224DF56A	220000PF 2012 16V 10% R/TP X7R
C443	0CK224DF56A	220000PF 2012 16V 10% R/TP X7R
C47	0CK224DF56A	220000PF 2012 16V 10% R/TP X7R
C546	0CE107DF618	100UF STD 16V M FL TP5
C583	0CE107DF618	100UF STD 16V M FL TP5
C584	0CE107DF618	100UF STD 16V M FL TP5
C585	0CE107DF618	100UF STD 16V M FL TP5
C59	0CK105DF64A	1UF 2012 16V 20% R/TP
C60	0CK105DF64A	1UF 2012 16V 20% R/TP
C61	0CK105DF64A	1UF 2012 16V 20% R/TP
C62	0CK105DF64A	1UF 2012 16V 20% R/TP
C63	0CK105DF64A	1UF 2012 16V 20% R/TP
C6	0CE105CK636	1UF SHL,SD 50V M FM5 BP(D) TP
C6	0CE107DF618	100UF STD 16V M FL TP5
C603	0CE476DF618	47UF STD 16V M FL TP5
C613	0CE107DF618	100UF STD 16V M FL TP5
C615	0CE107DF618	100UF STD 16V M FL TP5
C616	0CE106DF618	10UF STD 16V M FL TP5
C617	0CE106DF618	10UF STD 16V M FL TP5

LOCA. NO	PART NO	DESCRIPTION
C619	0CE335DK618	3.3UF STD 50V 20% FL TP 5
C620	0CE477DF618	470UF STD 16V M FL TP5
C621	0CK224DF56A	220000PF 2012 16V 10% R/TP X7R
C622	0CK224DF56A	220000PF 2012 16V 10% R/TP X7R
C624	0CK224DF56A	220000PF 2012 16V 10% R/TP X7R
C626	0CK224DF56A	220000PF 2012 16V 10% R/TP X7R
C627	0CK224DF56A	220000PF 2012 16V 10% R/TP X7R
C628	0CK224DF56A	220000PF 2012 16V 10% R/TP X7R
C630	0CE107DF618	100UF STD 16V M FL TP5
C634	0CE107DF618	100UF STD 16V M FL TP5
C643	0CE106DK618	10UF STD 50V M FL TP5
C643	0CE476DK618	47UF STD 50V M FL TP5
C644	0CK224DF56A	220000PF 2012 16V 10% R/TP X7R
C645	0CK224DF56A	220000PF 2012 16V 10% R/TP X7R
C650	0CE227DF618	220UF STD 16V M
C660	0CE107DF618	100UF STD 16V M FL TP5
C662	0CK105DF64A	1UF 2012 16V 20%
C665	0CK105DF64A	1UF 2012 16V 20%
C666	0CK105DF64A	1UF 2012 16V 20%
C668	0CK105DF64A	1UF 2012 16V 20% R/TP F(Y5V)
C671	0CK105DF64A	1UF 2012 16V 20% R/TP F(Y5V)
C672	0CK105DF64A	1UF 2012 16V 20% R/TP F(Y5V)
C677	0CK105DF64A	1UF 2012 16V 20% R/TP F(Y5V)
C678	0CK105DF64A	1UF 2012 16V 20% R/TP F(Y5V)
C711	0CE107DF618	100UF STD 16V M FL TP5
C777	0CE108DD618	1000UF STD 10V M
C801	0CE476DF618	47UF STD 16V M FL TP5
C801	0CE476DK618	47UF STD 50V M FL TP5
C802	0CE477DF618	470UF STD 16V 20% FL TP 5
C803	0CE477DF618	470UF STD 16V 20% FL TP 5
C804	0CE477DF618	470UF STD 16V 20% FL TP 5
C805	0CE477DF618	470UF STD 16V 20% FL TP 5
C806	0CE477DF618	470UF STD 16V 20% FL TP 5
C807	0CE477DF618	470UF STD 16V 20% FL TP 5
C808	0CE227DH618	220UF STD 25V M FL TP5
C814	0CE107DH618	100UF STD 25V M FL TP5
C815	0CE107DH618	100UF STD 25V M FL TP5
C817	0CE475DK618	4.7UF STD 50V 20% FL TP 5
C819	0CE106DF618	10UF STD 16V M FL TP5
C820	0CE106DK618	10UF STD 50V M FL TP5
C822	0CE107DF618	100UF STD 16V M FL TP5
C823	0CE227DH618	220UF STD 25V M FL TP5
C825	0CE477DH618	470UF STD 25V M FL TP5
C826	0CE477DH618	470UF STD 25V M FL TP5
C831	0CE106DF618	10UF STD 16V M FL TP5
C831	0CE477DD618	470UF STD 10V M FL TP5
C832	0CE477DD618	470UF STD 10V M FL TP5
C834	0CE106DF618	10UF STD 16V M FL TP5
C834	0CE477DD618	470UF STD 10V M FL TP5
C835	0CE477DD618	470UF STD 10V M FL TP5
C836	0CE477DD618	470UF STD 10V M FL TP5
C837	0CE477DD618	470UF STD 10V M FL TP5

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CC, CX, CK, CN : Ceramic
CQ : Polyestor
CE : Electrolytic

RD : Carbon Film
RS : Metal Oxide Film
RN : Metal Film
RF : Fusible

LOCA. NO	PART NO	DESCRIPTION
C941	0CE106DK618	10UF STD 50V M FL TP5
C942	0CE107DF618	100UF STD 16V M FL TP5
C956	0CK823DK56A	82000PF 2012 50V 10% R/TP X7R
C962	0CE107DF618	100UF STD 16V M FL TP5
C987	0CE476DF618	47UF STD 16V M FL TP5
C988	0CE476DF618	47UF STD 16V M FL TP5
C989	0CE476DF618	47UF STD 16V M FL TP5
C991	0CK105DF64A	1UF 2012 16V 20% R/TP F(Y5V)
FUSE		
F803	0FT2001A86B	FUSE,2000MA 125 V 8.6X4X8.4 BOX/PL KS
F804	0FT2001A86B	FUSE,000MA 125 V 8.6X4X8.4 BOX/PL KS /
F805	0FT2001A86B	FUSE,2000MA 125 V 8.6X4X8.4 BOX/PL KS
COIL & TRANSFORMER		
L101	0LA0102K139	INDUCTOR,10UH K 4*10.5 TP
L1101	0LA0222K119	INDUCTOR,22UH K 2.3*3.4 TP
L652	6140VR0001A	COIL,ENERGY RECOVERY SB-1260-330 GET 33UH
L653	6140VR0001A	COIL,ENERGY RECOVERY SB-1260-330 GET 33UH
L654	6140VR0001A	COIL,ENERGY RECOVERY SB-1260-330 GET 33UH
L655	6140VR0001A	COIL,ENERGY RECOVERY SB-1260-330 GET 33UH
L802	6140VB0004B	COIL,CHOKE 26UH 1UEWPHY 22.5TURN
L803	6140VB0004A	COIL,CHOKE 9.5UH 1UEWPHY 13.5TURN
T801	6170VTCA30A	TRANSFORMER,SMP EPC 13-Z 320UH DC-DC CONV.
JACK		
JA203	6613V00008F	JACK ASSY,PMJ014F E/P(ST)+S-VHS+3P H6.5 GOLD
JA206	6612VCH003B	JACK,PHONE NPEJ012C H=6.5 STEREO 1P
JA801	6612A00011A	JACK,DC POWER KJA-DC-3-0002 KSD
JK2	6613V00004Q	JACK ASSY,PJ6054Q RLC 3P(Y,L,R) GOLD
P3	6612B00002A	JACK,DIN KJA-UB-3-0015 KSD USB DOWNSTREAM
P5	6612B00003A	JACK,DIN KJA-UB-3-0006 KSD USB UPSTREAM
SJ205	381-091B	JACK,SCART S-091B UGCOM W/O BOSS
CRYSTAL & FILTER		
L1	6210TCE001G	FILTER,HH-1M3216-501 CERATEC 3216MM R/TP
L1	6210TCE001G	FILTER,HH-1M3216-501 CERATEC 3216MM R/TP
L10	6210TCE001G	FILTER,HH-1M3216-501 CERATEC 3216MM R/TP
L102	6210TCE001G	FILTER,HH-1M3216-501 CERATEC 3216MM R/TP
L103	6210TCE001G	FILTER,HH-1M3216-501 CERATEC 3216MM R/TP
L11	6210TCE001G	FILTER,HH-1M3216-501 CERATEC 3216MM R/TP
L15	6210TCE001G	FILTER,HH-1M3216-501 CERATEC 3216MM R/TP
L16	6210TCE001G	FILTER,HH-1M3216-501 CERATEC 3216MM R/TP
L2	6210TCE001G	FILTER,HH-1M3216-501 CERATEC 3216MM R/TP
L2	6210TCE001G	FILTER,HH-1M3216-501 CERATEC 3216MM R/TP
L201	6210TCE001A	FILTER,HB-1S2012-080JT CERATEC 2012MM
L202	6210TCE001A	FILTER,HB-1S2012-080JT CERATEC 2012MM
L204	6210TCE001A	FILTER,HB-1S2012-080JT CERATEC 2012MM
L205	6210TCE001A	FILTER,HB-1S2012-080JT CERATEC 2012MM
L205	6210TCE001A	FILTER,HB-1S2012-080JT CERATEC 2012MM
L206	6210TCE001A	FILTER,HB-1S2012-080JT CERATEC 2012MM
L206	6210TCE001A	FILTER,HB-1S2012-080JT CERATEC 2012MM

LOCA. NO	PART NO	DESCRIPTION
L208	6210TCE001A	FILTER,HB-1S2012-080JT CERATEC 2012MM
L209	6210TCE001A	FILTER,HB-1S2012-080JT CERATEC 2012MM
L21	6210TCE001G	FILTER,HH-1M3216-501 CERATEC 3216MM
L210	6210TCE001A	FILTER,HB-1S2012-080JT CERATEC 2012MM
L211	6210TCE001A	FILTER,HB-1S2012-080JT CERATEC 2012MM
L214	6210TCE001A	FILTER,HB-1S2012-080JT CERATEC 2012MM
L215	6210TCE001A	FILTER,HB-1S2012-080JT CERATEC 2012MM
L222	6210TCE001A	FILTER,HB-1S2012-080JT CERATEC 2012MM
L223	6210TCE001A	FILTER,HB-1S2012-080JT CERATEC 2012MM
L3	6210TCE001G	FILTER,HH-1M3216-501 CERATEC 3216MM
L301	6210TCE001G	FILTER,HH-1M3216-501 CERATEC 3216MM
L302	6210TCE001A	FILTER,HB-1S2012-080JT CERATEC 2012MM
L303	6210TCE001G	FILTER,HH-1M3216-501 CERATEC 3216MM
L4	6210TCE001G	FILTER,HH-1M3216-501 CERATEC 3216MM
L451	6210TCE001G	FILTER,HH-1M3216-501 CERATEC 3216MM
L452	6210TCE001G	FILTER,HH-1M3216-501 CERATEC 3216MM
L453	6210TCE001G	FILTER,HH-1M3216-501 CERATEC 3216MM
L454	6210TCE001G	FILTER,HH-1M3216-501 CERATEC 3216MM
L5	6210TCE001G	FILTER,HH-1M3216-501 CERATEC 3216MM
L601	6210TCE001G	FILTER,HH-1M3216-501 CERATEC 3216MM
L602	6210TCE001G	FILTER,HH-1M3216-501 CERATEC 3216MM
L603	6210TCE001G	FILTER,HH-1M3216-501 CERATEC 3216MM
L651	6210TCE001G	FILTER,HH-1M3216-501 CERATEC 3216MM
L7	6210TCE001G	FILTER,HH-1M3216-501 CERATEC 3216MM
L702	6210TCE001G	FILTER,HH-1M3216-501 CERATEC 3216MM
L703	6210TCE001A	FILTER,HB-1S2012-080JT CERATEC 2012MM
L704	6210TCE001A	FILTER,HB-1S2012-080JT CERATEC 2012MM
L8	6210TCE001G	FILTER,HH-1M3216-501 CERATEC 3216MM
L801	6210TCE001G	FILTER,HH-1M3216-501 CERATEC 3216MM
L804	6210TCE001G	FILTER,HH-1M3216-501 CERATEC 3216MM
L805	6210TCE001G	FILTER,HH-1M3216-501 CERATEC 3216MM
L806	6210TCE001G	FILTER,HH-1M3216-501 CERATEC 3216MM
L807	6210TCE001G	FILTER,HH-1M3216-501 CERATEC 3216MM
L809	6210TCE001G	FILTER,HH-1M3216-501 CERATEC 3216MM
L9	6210TCE001G	FILTER,HH-1M3216-501 CERATEC 3216MM
L951	6210TCE001G	FILTER,HH-1M3216-501 CERATEC 3216MM
L952	6210TCE001G	FILTER,HH-1M3216-501 CERATEC 3216MM
L953	6210TCE001G	FILTER,HH-1M3216-501 CERATEC 3216MM
L954	6210TCE001A	FILTER,HB-1S2012-080JT CERATEC 2012MM
RA504	6210VC0004A	FILTER ,BK3216 4S600 TAIYOYUDEN 3.2X1.6X0.8MM
X1	156-A01L	RESONATOR,CRYSTAL HC49U 6.000MHZ 30PPM 16PF
X2	156-A01L	RESONATOR,CRYSTAL HC49U 6.000MHZ 30PPM 16PF
X301	6202VDT002E	RESONATOR,CRYSTAL X-1SMD 20250000HZ 30PPM 16PF
X501	6202VDT002B	RESONATOR,CRYSTAL SX-1SMD 14.318MHZ 30PPM 16PF
X601	6202VDT002H	RESONATOR,CRYSTAL SX-1 18.432000MHZ +/-30 PPM 16PF
CONNECTOR		
JA202	6630G15E215	CONNECTOR,KSD 15P 2.29MM KCN-DS-3-0054
P1	387-A15A	CONNECTOR ASSY,12P 2.5MM 100MM
P1	6630VF01810	CONNECTOR,YEONHO 10P 1.25MM
P1002	6631V25049K	CONNECTOR ASSY,4P 2.5MM 300MM
P1101A	6602V20005L	CONNECTOR,2.0MM 12P GIL-S LG CABLE STRAIGHT

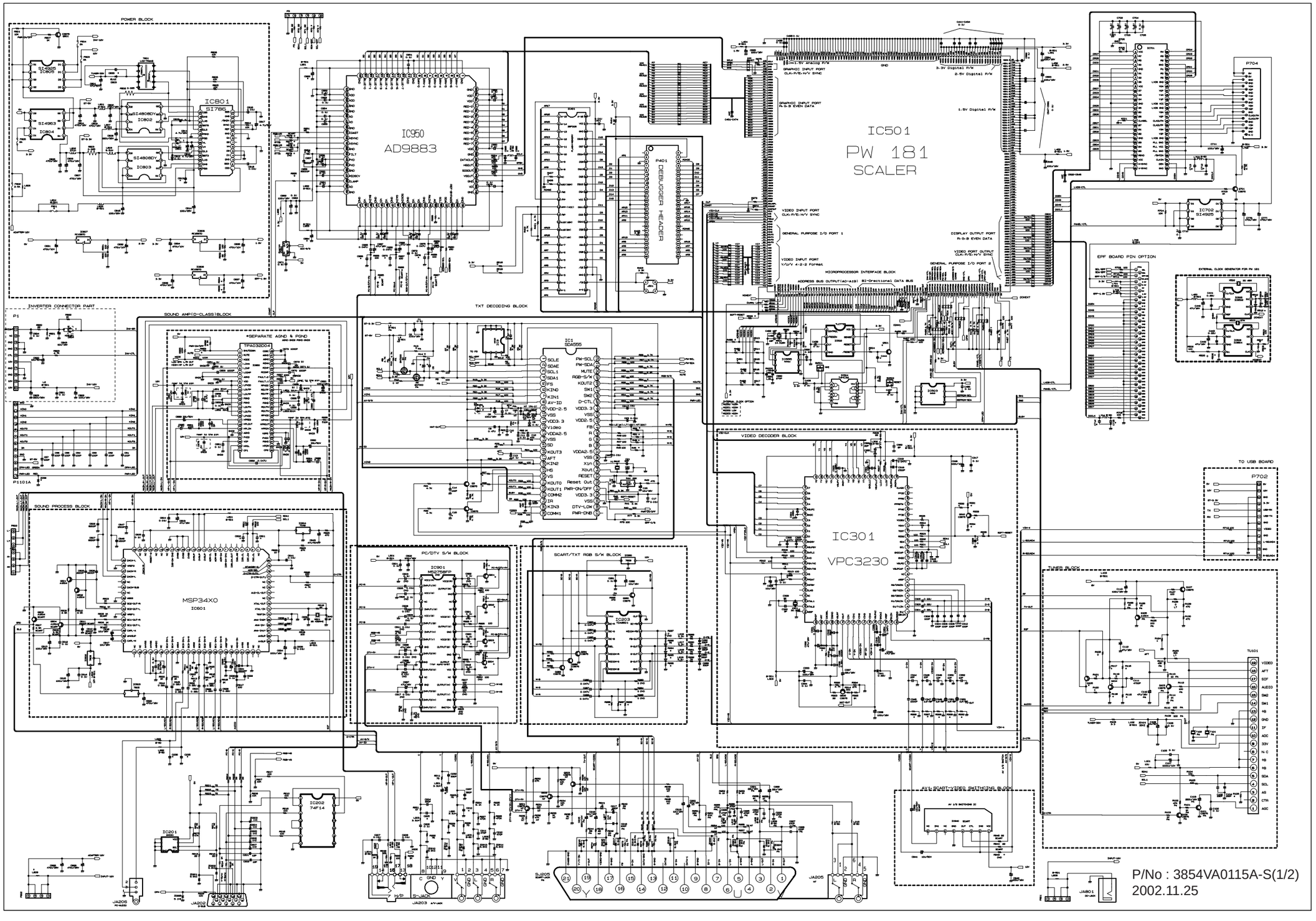
For Capacitor & Resistors, the charactors at 2nd and 3rd digit in the P/No. means as follows;

CC, CX, CK, CN : Ceramic
CQ : Polyestor
CE : Electrolytic

RD : Carbon Film
RS : Metal Oxide Film
RN : Metal Film
RF : Fusible

LOCA. NO	PART NO	DESCRIPTION
P2	6602V20005L	CONNECTOR,2.0MM 12P GIL-S LG CABLE STRAIGHT
P3	366-932E	CONNECTOR,2.5MM 6P GIL-G LG CABLE S (STICK)
P601	366-932C	CONNECTOR,2.5MM 4P GIL-G LG CABLE S (STICK)
P602	366-932B	CONNECTOR,2.5MM 3P GIL-G LG CABLE S (STICK)
P7	366-922C	CONNECTOR,2.5MM 4P GIL-G LG CABLE R/A (B TO C)
P702	366-921L	CONNECTOR,2.5MM 12P GIL-G LG CABLE
P704	6602T11001A	CONNECTOR,FI-TWE21P-VF JAE 21P 1.25MM
P802	6602V25004C	CONNECTOR,GT250 LGC 4 2.5 .
	RESISTOR	
R1101	0RD1001F609	1K OHM 1/6 W 5% TA52
R1102	0RD1001F609	1K OHM 1/6 W 5% TA52
R1103	0RD2200F609	220 OHM 1/6 W 5.00% TA52
R1104	0RD2200F609	220 OHM 1/6 W 5.00% TA52
R1105	0RD4701F609	4.7K OHM 1/6 W 5% TA52
RA401	0RRZVTA001A	MNR-14-E0A-J-101 R OHM 100 OHM 5%
RA402	0RRZVTA001A	MNR-14-E0A-J-101 R OHM 100 OHM 5%
RA403	0RRZVTA001A	MNR-14-E0A-J-101 R OHM 100 OHM 5%
RA404	0RRZVTA001A	MNR-14-E0A-J-101 R OHM 100 OHM 5%
RA405	0RRZVTA001A	MNR-14-E0A-J-101 R OHM 100 OHM 5%
RA406	0RRZVTA001A	MNR-14-E0A-J-101 R OHM 100 OHM 5%
RA407	0RRZVTA001A	MNR-14-E0A-J-101 R OHM 100 OHM 5%
RA451	0RRZVTA001A	MNR-14-E0A-J-101 R OHM 100 OHM 5%
RA452	0RRZVTA001A	MNR-14-E0A-J-101 R OHM 100 OHM 5%
RA453	0RRZVTA001A	MNR-14-E0A-J-101 R OHM 100 OHM 5%
RA454	0RRZVTA001A	MNR-14-E0A-J-101 R OHM 100 OHM 5%
RA502	0RRZVTA001A	MNR-14-E0A-J-101 R OHM 100 OHM 5%
RA511	0RRZVTA001A	MNR-14-E0A-J-101 R OHM 100 OHM 5%
RA512	0RRZVTA001A	MNR-14-E0A-J-101 R OHM 100 OHM 5%
RA701	0RRZVTA001A	MNR-14-E0A-J-101 R OHM 100 OHM 5%
RA702	0RRZVTA001A	MNR-14-E0A-J-101 R OHM 100 OHM 5%
RA703	0RRZVTA001A	MNR-14-E0A-J-101 R OHM 100 OHM 5%
RA704	0RRZVTA001A	MNR-14-E0A-J-101 R OHM 100 OHM 5%
RA705	0RRZVTA001A	MNR-14-E0A-J-101 R OHM 100 OHM 5%
RA706	0RRZVTA001A	MNR-14-E0A-J-101 R OHM 100 OHM 5%
RA707	0RRZVTA001A	MNR-14-E0A-J-101 R OHM 100 OHM 5%
	SWITCH	
SW1001	140-315A	SWITCH,TACT SKHV17910B LG C&D NON 12V
SW1002	140-315A	SWITCH,TACT SKHV17910B LG C&D NON 12V
SW1003	140-315A	SWITCH,TACT SKHV17910B LG C&D NON 12V
SW1004	140-315A	SWITCH,TACT SKHV17910B LG C&D NON 12V
SW1005	140-315A	SWITCH,TACT SKHV17910B LG C&D NON 12V
SW1006	140-315A	SWITCH,TACT SKHV17910B LG C&D NON 12V
SW1007	140-315A	SWITCH,TACT SKHV17910B LG C&D NON 12V
SW1008	140-315A	SWITCH,TACT SKHV17910B LG C&D NON 12V
SW1009	140-315A	SWITCH,TACT SKHV17910B LG C&D NON 12V
SW1101	6600VM1001A	SWITCH,PUSH SDKLA1 250V 5A VERTICAL 460G
SW501	6600VR1004A	SWITCH,TACT SKHMPW 5P CHIP TACT
SW502	6600VR1004A	SWITCH,TACT SKHMPW 5P CHIP TACT

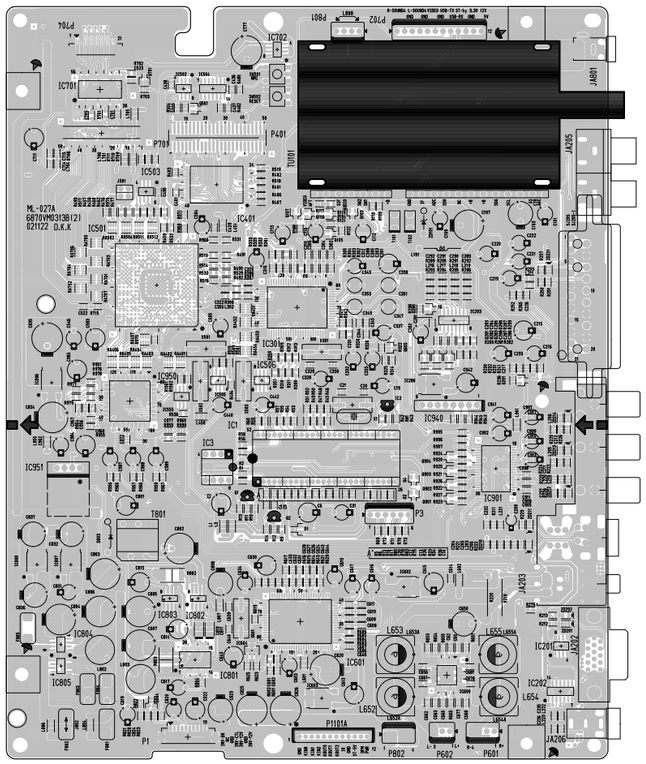
LOCA. NO	PART NO	DESCRIPTION
	ACCESSORIES	
A1	3828VA0366B	MANUAL,OWNERS ML027A DG/BN LG
A1	3828VA0366D	MANUAL,OWNERS ML027A UK/WTY
A1	3828VA0366G	MANUAL,OWNERS ML027A ES/PB LG SP/PO
A2	6710V00091A	REMOTE CONTROLLER ML027A FULL SPEC
A4	6634B00043H	ADAPTER,AC-DC SAD6012SE 120V 5.0A 60W
	MISCELLANEOUS	
	6410VEH003A	POWER CORD,M2511A-001 VOLEX VDE/SEMKO 1800MM
	6410VBH003A	POWER CORD,M2511A-001 VOLEX VDE/SEMKO
PA1101	6726VV0006D	REMOTE CONTROLLER RECEIVER 38.0KHZ
TU101	6700PF0002A	TUNER,TAFH-S321D LG PAL FS 4SYS



P/No : 3854VA0115A-S(1/2)
2002.11.25

PRINTED CIRCUIT BOARD

MAIN(TOP)



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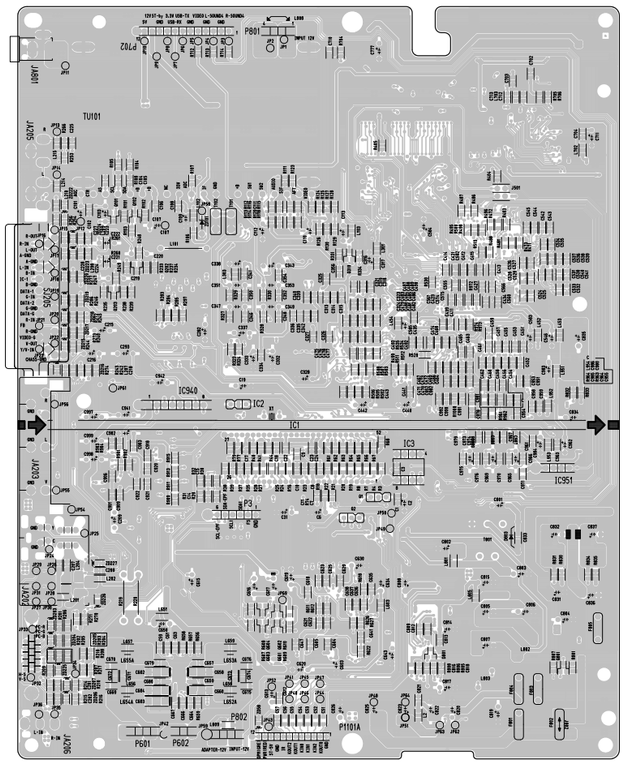

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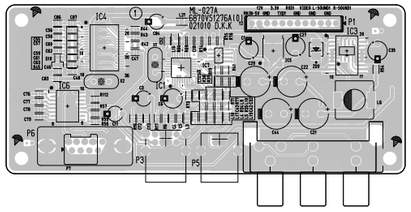

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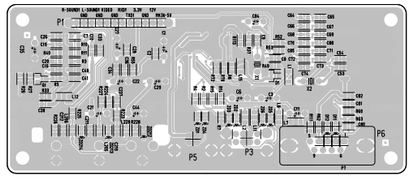

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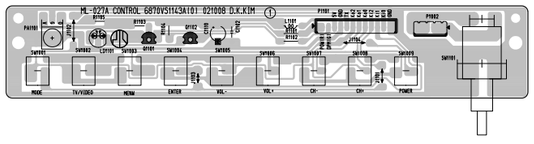

P/No : 3854VA0115A-S(2/2)
2002.11.25

SVC. SHEET : 3854VA0115A-S